REMARKS

Pursuant to the present amendment, claims 1 and 36 have been amended, claims 2 and 39 have been canceled, and new claims 72-88 have been added. Thus, claims 1, 3-38 and 40-88 are pending in the present application. No new matter has been introduced by way of the present amendment. Reconsideration of the present application is respectfully requested.

As an initial matter, the drawings were objected to because they allegedly failed to show the demister pads 18A or 23A as recited in the specification. Pursuant to the present amendment, Applicants hereby submit marked-up drawings wherein the demister pads 18A and 23A are clearly labeled in red ink. Upon indication of allowable subject matter, and the acceptability of the proposed changes, Applicants will submit revised drawings that include the changes indicated in red ink.

In the Office Action, claims 1, 2, 4, 24, 26, 36-38, 40, 61 and 63 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Nakahara (JP 53132638A). Claims 1, 2, 4, 24, 26, 36-38, 40, 61 and 63 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Smith (U.S. Patent No. 4,557,112). Claims 1, 2, 4, 24, 26, 36-38, 40, 61 and 63 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Kalina (U.S. Patent No. 5,953,918). Claims 3, 5-23, 25, 27-35, 39, 41-60, 62 and 64-71 were rejected under 35 U.S.C. § 103 as allegedly being obvious over Nakahara, Smith or Kalina. Applicants respectfully traverse the Examiner's rejections.

As the Examiner well knows, an anticipating reference by definition must disclose every limitation of the rejected claim in the same relationship to one another as set forth in the claim. *In re Bond*, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990). To the extent the Examiner relies on principles of inherency in making the anticipation rejections in the Office Action, inherency requires that the asserted proposition necessarily flow from the disclosure. *In re Oelrich*, 212

U.S.P.Q. 323, 326 (C.C.P.A. 1981); *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1463-64 (Bd. Pat. App. & Int. 1990); *Ex parte Skinner*, 2 U.S.P.Q.2d 1788, 1789 (Bd. Pat. App. & Int. 1987); *In re King*, 231 U.S.P.Q. 136, 138 (Fed. Cir. 1986). It is not enough that a reference could have, should have, or would have been used as the claimed invention. "The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *Oelrich*, at 326, quoting *Hansgirg v. Kemmer*, 40 U.S.P.Q. 665, 667 (C.C.P.A. 1939); *In re Rijckaert*, 28 U.S.P.Q.2d 1955, 1957 (Fed. Cir. 1993), quoting *Oelrich*, at 326; see also *Skinner*, at 1789. "Inherency ... may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *Skinner*, at 1789, citing *Oelrich*. Where anticipation is found through inherency, the Office's burden of establishing prima facie anticipation includes the burden of providing "...some evidence or scientific reasoning to establish the reasonableness of the examiner's belief that the functional limitation is an inherent characteristic of the prior art." *Skinner* at 1789.

Moreover, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991); M.P.E.P. § 2142. Moreover, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (CCPA 1974). If an independent claim is nonobvious under 35

U.S.C. § 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988); M.P.E.P. § 2143.03.

With respect to alleged obviousness, there must be something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561 (Fed. Cir. 1986). In fact, the absence of a suggestion to combine is dispositive in an obviousness determination. *Gambro Lundia AB v. Baxter Health-care Corp.*, 110 F.3d 1573 (Fed. Cir. 1997). The mere fact that the prior art can be combined or modified does not make the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990); M.P.E.P. § 2143.01. The consistent criterion for determining obviousness is whether the prior art would have suggested to one of ordinary skill in the art that the process should be carried out and would have a reasonable likelihood of success, viewed in the light of the prior art. Both the suggestion and the expectation of success must be founded in the prior art, not in the Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991; *In re O'Farrell*, 853 F.2d 894 (Fed. Cir. 1988); M.P.E.P. § 2142.

Applying these legal standards, it is respectfully submitted that amended independent claim 1, and all claims depending therefrom, are in condition for immediate allowance. Pursuant to the present amendment, claim 1 has been amended to recite that the working fluid is converted to a supercritical vapor via heat transfer from the heat contained in the fluid from the heat source, wherein a temperature-enthalpy profile of the working fluid in the first heat exchanger is approximately linear as the working fluid changes state from liquid to a supercritical vapor.

As amended, it is believed that independent claim 1 is not anticipated by nor obvious in view of Nakahara. Attached is an English language translation of the Nakahara patent. In general, Nakahara is understood to be directed to a power recovery system using a Rankine cycle

under high temperature conditions wherein Freon 11 is used as the operating medium. With reference to Figure 1, Nakahara discloses a system wherein a turbine 4 is used to drive an electrical generator 5 to obtain electrical power. A variety of different operating media, such as Freon 11, Freon 12, Freon 114, isobutane, normal pentane, sulfer dioxide and ammonia, may be employed with the system disclosed therein. Figure 2. According to Nakahara, the use of Freon 11 results in the highest recovered electrical power for the same heat input. It is clear from the teachings of Nakahara that the operating medium 2 exiting the heat exchanger 3 is **not** a supercritical vapor as required by amended claim 1. Moreover, at no point does Nakahara disclose nor suggest that the temperature-enthalpy profile of the working fluid in the first heat exchanger is approximately linear as the working fluid changes state from a liquid to a supercritical vapor. Nakahara does not disclose nor suggest a system that has such capabilities. Accordingly, it is respectfully submitted that Nakahara does not anticipate amended claim 1 for at least these reasons.

Similarly, the patent to Smith does not anticipate or render obvious the invention defined by amended claim 1. Smith is understood to be directed to a method of converting thermal energy into another form of energy by, among other things, adiabatically compressing the working fluid and adiabatically expanding the hot compressed working fluid. Smith discloses the use of a basic Rankine cycle to accomplish the objectives described therein. Smith purports to provide a system that overcomes the deficiencies of Rankine cycle prior art systems by heating the working fluid only up to its boiling point, and thereafter evaporating the fluid by flashing during the expansion portion of the Rankine cycle. Col. 2, ll. 7-30. Smith further notes that the system disclosed therein provides for progressively drying the fluid during expansion. Smith also discusses various drawbacks associated with previous attempts to improve Rankine

cycles for recovering power. Col. 4, ll. 35-53; Figures 12-13. Smith specifically notes various disadvantages in using such a system and teaches away from their use.

As thus understood, it is respectfully submitted that Smith does not disclose nor suggest a system wherein the working fluid is converted to a supercritical vapor via heat transfer from the heat contained in the fluid from the heat source, and wherein a temperature-enthalpy profile of the working fluid in the first heat exchanger is approximately linear as the working fluid changes state from a liquid to a supercritical vapor. In fact, in Figure 8 of Smith, the temperature-enthalpy profile of the working fluid heated in the boiler is non-linear through the boiler. Accordingly, it is respectfully submitted that Smith does not anticipate, nor render obvious, the invention defined by amended independent claim 1.

It is also respectfully submitted that amended independent claim 1 is not anticipated by nor rendered obvious in view of Kalina. Kalina is generally directed to a method and system for implementing a thermodynamic cycle. The working stream of the system disclosed in Kalina is a multi-component working stream that includes a low boiling point component and a high boiling point component. Col. 2, ll. 36-38. One particular example includes an ammonia-water mixture. Col. 2, ll. 37-41. Kalina is understood to be directed to a subcritical system, *i.e.*, a system that does not employ a supercritical vapor. Moreover, the temperature-enthalpy profile of the working fluid as it passes through the heat exchanger is believed to be non-linear based on the data provided in Table 2. Table 2 indicates that the system disclosed in Kalina employs a two-phase mixture that, by definition, cannot have a linear temperature-enthalpy profile in the system disclosed therein. For at least these reasons, it is respectfully submitted that amended independent claim 1 is not anticipated by Kalina.

Moreover, it is respectfully submitted that amended independent claim 1 is not obvious in view of Nakahara, Smith or Kalina, considered individually or collectively. At no point does any

of the references, considered individually or in combination, disclose or suggest converting the working fluid to a **supercritical** vapor via heat transfer from the heat contained in the fluid from the heat source, wherein the temperature-enthalpy profile of the working fluid during the conversion from a liquid to a supercritical vapor is approximately linear. It is respectfully submitted that any attempt to assert that the invention defined by amended independent claim 1 is obvious in view of any of the specifically identified references or any other art of record is necessarily based upon an improper use of hindsight using Applicants' disclosure as a roadmap. Accordingly, it is respectfully submitted that independent claim 1, and all claims depending therefrom, are in condition for immediate allowance.

Pursuant to the present amendment, independent claim 36 has been amended to recite that the desuperheater heat exchanger is configured such that the temperature of the exhaust vapor from the turbine is reduced via heat transfer by **direct contact and mixing** with a portion of the working fluid in the desuperheater heat exchanger. As thus amended, it is respectfully submitted that independent claim 36, and all claims depending therefrom, are in condition for immediate allowance. More specifically, none of the art of record discloses or suggests a system having such a unique configuration. For example, the Examiner identified the heat exchanger 6 in Nakahara as the desuperheater heat exchanger. Leaving aside the issue that Nakahara describes this heat exchanger as a "regenerator," this heat exchanger and the overall system in Nakahara is not configured in the manner now recited in amended independent claim 36. It is believed that Nakahara discloses a conventional shell-and-tube type heat exchanger in which the two fluid streams do not contact or mix with one another, as now required by amended claim 36. Similarly, in Smith, the Examiner identified the heat exchangers 26 or 28 as being the "desuperheater heat exchanger." However, as with Nakahara, the heat exchangers in Smith do not involve direct contact and mixing between the exhaust vapor from the turbine and a portion

of the working fluid to achieve the heat transfer recited by the claim, *i.e.*, a reduction in the temperature of the exhaust vapor. In Kalina, the Examiner identified the heat exchanger HE-3 as being the "desuperheater heat exchanger." However, as with Nakahara and Smith, the heat exchanger HE-3 in Kalina does not involve direct contact and mixing between the exhaust vapor and a portion of the working fluid.

Accordingly, it is respectfully submitted that amended independent claim 36 is not anticipated by or obvious in view of the prior art of record. It is respectfully submitted that any attempt to assert that amended independent claim 36 is obvious in view of the prior art of record necessarily involves an improper use of hindsight using Applicants' disclosure as a roadmap. A recent Federal Circuit case makes it crystal clear that, in an obviousness situation, the prior art must disclose each and every element of the claimed invention, and that any motivation to combine or modify the prior art must be based upon a suggestion in the prior art. *In re Lee*, 61 U.S.P.Q.2d 143 (Fed. Cir. 2002). Conclusory statements regarding common knowledge and common sense are insufficient to support a finding of obviousness. *Id.* at 1434-35. First, even if the prior art of record were combined, such a combination would not disclose each and every limitation now recited in amended independent claim 36. Accordingly, any such obviousness rejection would be legally improper for this reason alone. Moreover, there is simply no suggestion to modify the teachings and disclosure of the prior art of record so as to arrive at Applicants' claimed invention, as recited in the entirety of amended independent claim 36. The Examiner has not provided any reasoning why one skilled in the art when reading the disclosure of Nakahara, Smith, Kalina and the other art of record would be motivated to configure a system like that now recited in amended claim 36. More specifically, it is respectfully submitted that one skilled in the art, when viewing the cited prior art references, would not be motivated to configure a system having all of the limitations of claim 36. This is particularly true with respect

to the limitation requiring a desuperheater heat exchanger in which heat transfer is accomplished by direct contact and mixing between the exhaust vapor and a portion of the working fluid. It is unclear whether the systems in Nakahara, Smith and Kalina could even be modified in such a fashion and still function. What is clear is that there is no suggestion to modify these references in a manner such that they systems disclosed therein meet each and every limitation of amended independent claim 36.

Pursuant to the present amendment, new claims 72, 73, 79 and 80 have been added. These claims correspond generally to original dependent claims 17, 25, 22 and 23, respectively. New claim 76 is a combination of original dependent claims 17 and 30. Of course, the Examiner will need to consult the exact language of each claim for all limitations set forth therein. It is respectfully submitted that these new independent claims, and all claims depending therefrom, are in condition for immediate allowance.

New independent claim 72 recites that the first heat exchanger is adapted to receive an exhaust fluid from a combustion gas turbine and the working fluid is converted to a vapor via heat transfer from the heat contained in the exhaust fluid from the combustion gas turbine. This limitation, in addition to the entirety of the limitations found in independent claim 1, is not disclosed nor suggested by the art of record. As understood by the undersigned, at no point does the art of record disclose the use of an exhaust fluid from a combustion gas turbine as the fluid that is used to convert a working fluid to a vapor via heat transfer. Accordingly, it is respectfully submitted that independent claim 72 is allowable over the art of record.

New independent claim 73 recites that the turbine is adapted to receive the vapor and to drive at least one compressor of a refrigeration system to produce refrigeration which may be used for a variety of purposes. At no point does the art of record disclose or suggest a system meeting all of the limitations set forth in new independent claim 73. As understood by the

undersigned, none of the art of record discloses a turbine that is adapted to drive at least one compressor of a refrigeration system. This limitation, considered in conjunction with the other limitations in independent claim 73, renders claim 73 allowable over the art of record.

New independent claim 76 recites that the first heat exchanger is adapted to receive an exhaust fluid from a combustion gas turbine and that the working fluid is converted to a vapor via heat transfer from the heat contained in the exhaust fluid from the combustion gas turbine. Moreover, new independent claim 76 requires that the turbine is adapted to drive at least one compressor of a refrigeration system to thereby produce refrigeration to chill air entering the combustion gas turbine. Again, such a unique system is not disclosed nor suggested in the art of record identified by the Examiner. Accordingly, it is respectfully submitted that new independent claim 76, and all claims depending therefrom, are in condition for immediate allowance.

New independent claim 79 recites that the first heat exchanger is adapted to receive a fluid that is extracted from an intermediate stage of compression of a multi-stage gas compressor and that the working fluid is converted to a vapor via heat transfer from the heat contained in the extracted fluid. Again, such a unique system is not disclosed or suggested in any of the art of record identified by the Examiner. For at least this reason, it is respectfully submitted that new independent claim 79 is allowable over the art of record.

New independent claim 80 recites that the first heat exchanger is adapted to receive a fluid comprised of a compressed gas that has exited a final stage of compression in a multi-stage compressor and that the working fluid is converted to a vapor via heat transfer from the heat contained in this compressed gas. Again, such a system is not disclosed or even remotely suggested by the art identified by the Examiner. Accordingly, it is respectfully submitted that independent claim 80 is in condition for immediately allowance.

New independent claims 81, 84 and 88 have also been added pursuant to the present amendment to further define Applicants' invention. New independent claim 81 further defines a particular aspect of the present invention that contains additional limitations not found in amended independent claim 36. More specifically, independent claim 81 recites that the first heat exchanger is adapted to receive an exhaust fluid from a combustion gas turbine and that the turbine recited in the claim is adapted to receive the vapor and drive a compressor of a refrigeration system to produce refrigeration that is then employed to chill air entering the combustion gas turbine. Such a system is not disclosed or suggested in any of the prior art identified by the Examiner.

New independent claim 84 is directed to an embodiment of the present invention in which the system comprises an economizer heat exchanger and a condenser heat exchanger. Claim 84 further recites that the first heat exchanger is adapted to receive a fluid extracted from an intermediate stage of compression of a multi-stage compressor of a combustion gas turbine, and that the turbine recited in the claim is adapted to receive the vapor and drive a compressor of a refrigeration system to produce refrigeration that is then employed to chill air entering the combustion gas turbine. Such a system is not disclosed or suggested in any of the prior art identified by the Examiner.

New independent claim 86 further defines a particular aspect of the present invention that contains additional limitations not found in amended independent claim 36. More specifically, independent claim 86 recites that the first heat exchanger is adapted to receive a fluid from an intermediate stage of compression of a multi-stage gas compressor, and that the turbine recited in the claim is adapted to receive the vapor and drive a compressor of a refrigeration system to produce refrigeration that is then employed to chill air entering the combustion gas turbine. Such a system is not disclosed or suggested in any of the prior art identified by the Examiner.

New independent claim 88 further defines a particular aspect of the present invention that contains additional limitations not found in amended independent claim 36. More specifically, independent claim 88 recites that the first heat exchanger is adapted to receive superheated vapor from a high pressure stage of a refrigeration system. Such a system is not disclosed or suggested in any of the prior art identified by the Examiner.

In view of the foregoing, it is respectfully submitted that all claims are in condition for immediate allowance. The Examiner is invited to contact the undersigned attorney at (713) 934-4055 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,

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Examination Request Status: Not Requested.
(3 pages total)

(54) Power Recovery System

(21) Filing Number: Patent Filing No. Sho 52-46775
(22) Date of Application: April 25, 1977

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Specification Document

1. Title of the Invention: Power Recovery System

2. Scope of the Patent Claims

A power recovery system utilizing a Rankine cycle under high temperature conditions such that high temperature side temperature of the operating medium reaches 80?C to 250?C, wherein Freon 11 is used as the operating medium.

3. Detailed Explanation of the Invention

The present invention relates to a power recovery system [*and*] particularly to a power recovery system utilizing a Rankine cycle using an operating medium.

Various types of investigations have been previously carried out concerning power and electrical energy recovery systems which recover power from low temperature (about 40?C to about 300?C) heat sources such as solar heat, other sources of heat, and the like, and industrial waste heat of combustion exhaust gas and the like. Rankine cycle type power recovery systems using an operating medium as indicated in Figure 1 have been generally considered.

Within Figure 1, item 1 is a natural heat source such as industrial waste heat (of fuel combustion and the like), solar heat, or other types of heat, and the like. A medium boiler (heat exchanger) 3 heats and causes evaporation of an operating medium 2. This heated and evaporated operating medium 2 is then sent to a turbine 4, causes rotation, and expands. Rotational power at this time then rotates an electrical generator 5 to obtain electrical power. The expanded operating medium 2 then is cooled by regenerator 6, is cooled by a cooling water 9 at a reliquefier 7, and is condensed. The operating medium 2 liquefied in this manner then is pressurized by a pump 8, and then after pre-heating by turbine exhaust gas at the regenerator 6, is then sent again to the medium boiler 3 for heating and vaporization by the heat source 1.

Various types of power recovery systems have been previously created based on such a Rankine cycle using an operating medium. However, there are almost no instances of actual operation. The main reason for this is that economics are poor due to a low recovery rate (about 18%) due to the inherent low or medium temperature of the heat source.

Thus attainment of good economics is considered for a power recovery system as indicated in Figure 1 by raising the power recovery rate [*sic*] rate of this type of system.

The present invention was achieved in consideration of these circumstances. Although isobutane, pentane, and the like had been previously proposed as the operating medium used by a power recovery system such as that shown in Figure 1, it was found most advantageous and economical to use Freon 11, rather than these other operating media, under the temperature conditions of 80?C to 250?C of the high temperature side temperature of the operating medium.

This point will be explained in detail while referring to Figure 2.

Figure 2 shows electrical power output when using various types of operating media when the temperature of the operating medium in the condenser is fixed at 40?C for the power (electrical power) recovery system shown in Figure 1. The horizontal axis indicates temperature of the operating medium within the evaporator. The vertical axis shows electrical output for the case of 10^6 kcal/hr input heat. However, here regeneration of the operating medium at the regenerator 6 of Figure 1 is not considered, and turbine efficiency is 100%.

Within Figure 2, a, b, c, d, e, f, and g indicate the cases of the respective operating media as Freon 11, Freon 12, Freon 114, isobutane, normal pentane, sulfur dioxide, and ammonia. Moreover, the respective turbine outlet port pressures during use of these operating media were 1.8, 9.8, 3.4, 5.4, 1.2, 6.4, and 15.8 atmospheres absolute. Furthermore, "x" indicates the point at which the inlet port pressure was 100 atmospheres absolute.

As made clear by this Figure 2, in the vicinity of a high temperature side temperature of 80?C to 250?C of the operating medium, use of Freon 11 results in the highest recovered electrical power (recovered power) for the same input heat in comparison to the isobutane, pentane, and other operating media previously proposed as operating media.

Use of Freon 11 as the operating medium for this type of power (electrical power) recovery system thus has the following advantages.

(1) As shown in Figure 2, in the temperature range in the vicinity of 80?C to 250?C (there is concern for thermal decomposition of Freon 11 at high temperature, so the temperature of this decomposition becomes an upper limit of the temperature of use) of the high temperature side temperature of the operating medium, use of Freon 11 results in the highest recovered electrical power per unit of heat in comparison to use of isobutane, pentane, and other media.

(2) Thus economics are good due to improvement of recovery rate of the power recovery system from a medium-low temperature heat source, which had been heretofore uneconomical.

(3) This is economically advantageous since the turbine outlet port pressure is appropriate (1.8 atmospheres absolute), and the volumetric flow rate per unit output at the turbine outlet port is relatively small (about 8.0 m^3/kWH at a high temperature side temperature of 160?C) in comparison to the other media, the reliquefier is readily constructed, and the reliquefier has small dimensions.

(4) Moreover, the turbine inlet port pressure (24 atmospheres absolute when the high temperature side temperature is 160?C) is not excessively high when Freon 11 is used within the above mentioned type of temperature range. Thus hermetic sealing of the gas is easy.

(5) Freon 11 can be safely used due to a lack of toxicity and due to inflammability.

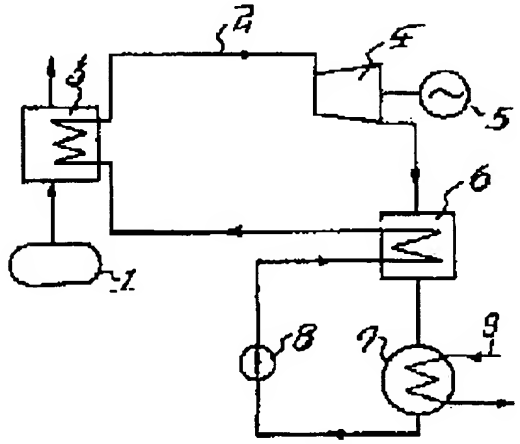
(6) Due to the low cost of Freon 11, equipment costs are low in comparison to the use of other media.

4. Simple Explanation of the Figures

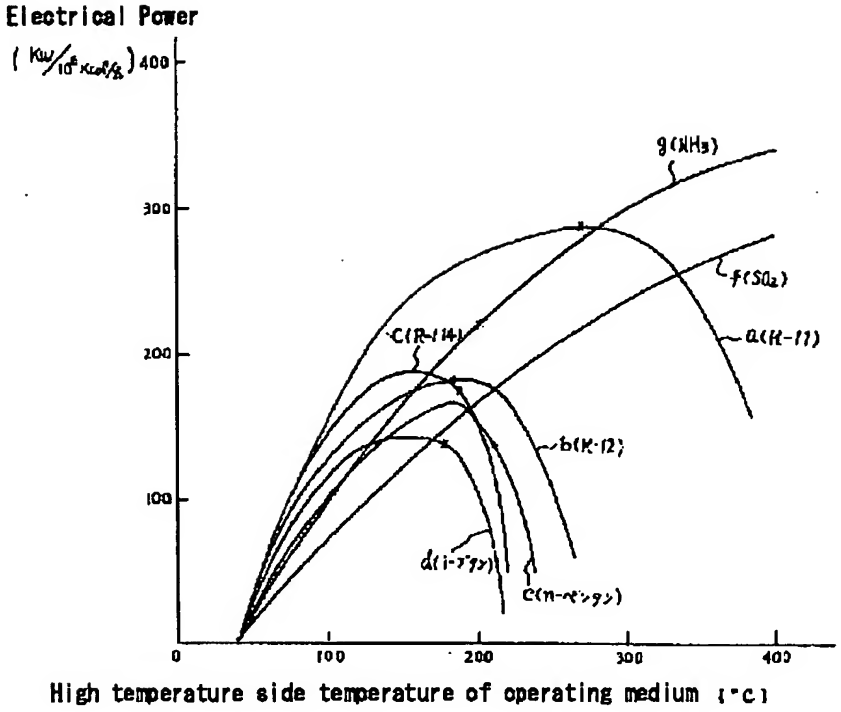
Figure 1 is a drawing showing an example of a system for recovery of power or electrical power from a medium-low temperature heat source. Figure 2 is a drawing showing a comparison of electrical power output when using various types of operating media in the system of Figure 1.

1 ... heat source
2 ... operating medium
3 ... medium boiler
4 ... turbine
5 ... electrical generator
6 ... regenerator
7 ... reliquefier
8 ... pump
9 ... cooling water

[Figure 1]



[Figure 2]


Electrical Power
(Kw/10⁶ kcal/h)
400
300
200
100
0
100
200
300
400
g(NH₃)
f(SO₂)
a(R-11)
c(R-114)
b(R-12)
d(i-ブタン)
e(n-ペンタン)
High temperature side temperature of operating medium (°C)

Presentation of Amendments Based on Article 17.2 of the Patent Law

The below mentioned amendments are presented based on Article 17.2 of the Patent Law for Patent Filing No. Sho 52-46775 (Unexamined Laid-open Patent Application No. Sho 53-132638 (published on Nov. 18th of 1978 in Patent Gazette No. 53-1327)).

(51) Int. Cl.[2]	Ident. Code	Agency Internal Control No.
F01K 25/10		6826-30

September 28th, 1982

Amendment of Proceedings (simultaneous with request for examination)

June 11th, 1982

Commissioner of the Patent Office, Honorable [*illegible*] Shimada

1. Indication of the case:
   Patent Filing No. Sho 52-46775

2. Title of the Invention:
   Power Recovery System

3. Party Making the Corrections:
   Relationship to the Case: Assignee.
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   (Phone No. = 213-0686)

5. Date of Amendment Order: Year, Month, Day

6. Object of Amendment: "Scope of the Patent Claims" of the Specification Document, and column and figure of "Detailed Explanation of the Invention"

7. Contents of the Corrections
   [*Contents of stamp: "Patent Office, June 11, 1982, [illegible]."*]

(A) The Specification Document will be corrected in the following manner.
(1) The Scope of the Patent Claims will be corrected as per a separate attachment.
(2) The "power recovery rate rate" of lines 16 - 19 of page 2 (3 - 2 lines from the bottom) is corrected to read "power recovery rate".

(B) The figures are corrected in the following manner.
   Figure 2 is replaced by the attached Figure 2.

Scope of the Patent Claims

A power recovery system utilizing a Rankine cycle under temperature conditions such that high temperature side temperature of the operating medium reaches 80?C to 250?C, wherein Freon 11 is used as the operating medium.

[Figure 2]